the outer and inner thermometer throughout the whole course of observation. It is shown that temperature cannot have vitiated these results by its effect on the instrument, since they are the same whether we employ the readings of two, or of six microscopes.

The absolute parallax of α Lyræ is investigated by the method of reflection, which the author had successfully introduced into other astronomical researches. Although the period of observation embraces only half the period of the double parallax, yet that apparent disadvantage is more than compensated, in the author's opinion, by an uniformity of the temperature obtained, such as can never be expected between the extreme seasons. Here, again, from the season chosen, from the pains taken to equalize the temperature, and from the concordance of the results obtained with two and six microscopes, the author believes that no errors of sensible amount have been introduced by change of temperature. These observations indicate that the absolute parallax of α Lyræ does not exceed a small fraction of a second.

The argument that has been advanced by Dr. Brinkley in favour of parallax, and on which the greatest reliance has been placed, is next adverted to; namely, that founded on the disengagement of the solar nutation after allowing for parallax, from the observations made with the Dublin instrument. This reasoning is considered strictly logical, as proving the disengagement of two equations, having each a regular period; but by no means so, as establishing that the larger equation results from parallax; since those stars in which the Dublin instrument discovers parallax, are at some distance from the zenith; and the more so as their parallax appears to be greater; and moreover, since those in which the greatest parallax is found, are stars whose maximum and mininum of parallax fall in the extreme seasons; the author thinks it probable that the discordances observed are owing to changes of temperature, which either alter the form of the instrument, or modify the refractions of the ray introduced within the observatory; since, on this supposition, we shall account for the want of parallax in zenith stars, and in those whose greatest and least parallax would happen at the mean seasons, and also for the regularity of the period that the discordances have been found to observe.

Observations on the Heights of Places in the Trigonometrical Survey of Great Britain, and upon the Latitude of Arbury Hill. By B. Bevan, *Esq. Communicated by Sir* H. Davy, *Bart. P.R.S.* Read May 23, 1822. [*Phil. Trans.* 1823, *p.* 73.]

The result of the trigonometrical survey, relative to the different sections of the meridian in this country, having disappointed public expectation, Mr. Bevan lately examined with some care the calculations affected by the observations made at Arbury Hill, with the hope of reconciling the anomaly in that part of the meridian. The

height of this station he determined by levelling to the Grand Junction Canal, from which, and the known difference of levels of the canals communicating with this, he obtained the relative height of this station, compared with the most important objects in Northampton, Buckingham, and Bedford. Finding the country to the north of Arbury station suddenly fall about 400 feet, and continue thus depressed for nine or ten miles, Mr. Bevan observes that such a defect of matter would probably produce a deflection of the plumb-line to the southward; and accordingly, on calculating the latitude of Arbury station from that of Blenheim observatory, independent of any astronomical observations made at Arbury, he found it 5″ less than shown by the zenith sector, giving countenance to the probability of local attraction by the high land to the south of the station. The author thinks that the observations at Dunnose were affected by the high land to the north of that station giving a latitude less than it should be by 7″ or 8″, and that Greenwich observatory is not altogether clear of local attraction from the higher land to the south, and defect upon the northern side. Clifton station also, he remarks, may be 2″ or 3″ in error, from the same cause.

With such corrections as the face of the country may warrant, not exceeding in the whole 200 miles above 10″, the author thinks it probable that the section of the meridian measured in Britain may agree with the different sections measured in other parts of the world.

Mr. Bevan lastly adverts to the probable errors in the *height* of the stations in the survey; and assuming the highest points of the Grand Junction Canal to be 408½ feet above the level of the sea at low-water spring tides, he considers the heights of Wendover, Kensworth, Bowbrick Hill, and Arbury Hill stations, to be about 72 feet in excess, as laid down in the survey.

On some Fossil Bones discovered in Caverns in the Limestone Quarries of Oreston. By Joseph Whidbey, *Esq. F.R.S. In a Letter addressed to* John Barrow, *Esq. F.R.S. To which is added, a Description of the Bones by Mr.* William Clift, *Conservator of the Museum of the College of Surgeons.* Read February 6, 1823. [*Phil. Trans.* 1823, *p.* 78.]

In one of these caverns there was a lining of stalactite, and the bones were lying loosely covered with rubble; in another, the bones adhered to the walls.

To this letter is annexed a description of the bones found by Mr. Whidbey, by Mr. Clift, Conservator of the Museum of the Royal College of Surgeons.

They belong to animals of several distinct genera; namely, the Bos, the Deer, Hyæna, Horse, Wolf, and Fox. Of these bones, a few are superficially incrusted with stalagmite, but the greater number were firmly imbedded in stiff clay, and exhibit no appearances of